## REMARKS

Claims 1-22 remain pending in the application.

**Claim 1 over Ariyama**

In the Office Action, claim 1 was rejected under 35 U.S.C. §102(b) as allegedly being anticipated by Ariyama et al. U.S. Patent No. 6,201,866 ("Ariyama"). The Applicants respectfully traverse the rejection.

Claim 1 recites, *inter alia,* an echo canceler module capable of configuration as one of an acoustic echo canceler and a hybrid echo canceler and a control register adatpted to configure said echo canceler module as the acoustic echo canceler and the hybrid echo canceler.

Ariyama appears to teach an echo canceler that has an adaptive filter with coefficients grouped into segments, and a candidate value memory that stores candidate values for each segment (Abstract). Internal components of the adaptive filter include a coefficient register that stores tap coefficients, a sample for storing consecutive sample values for a received signal, a multiplier and an adder (Ariyama, col. 2, lines 56-63). Application of the echo canceler can be applied to electrical echo cancellation, such as echo cancelers that cancel electrical echo signals arising in a hybrid coils that convert between two-wire and four-wire telephone circuits (Ariyama, col. 8, lines 33-37).

Ariyama teaches an echo canceler that has application in both acoustic echo cancellation and electrical echo cancellation. An application to various echo cancellation is NOT a configurable echo canceler, much less an echo canceler capable of configuration as one of an acoustic echo canceler and a hybrid echo canceler, as claimed by claim 1.

Accordingly, for at least all the above reasons, claim 1 is patentable over the prior art of record. It is therefore respectfully requested that the rejection be withdrawn.

**Claims 2, 3 and 14 over Ariyama in view of Iyengar**

In the Office Action, claims 2, 3 and 14 were rejected under 35 U.S.C. §103(a) as allegedly being obvious over Ariyama in view of Iyengar U.S.

Patent No. 5,663,955 ("Iyengar"). The Applicants respectfully traverse the rejection.

Claims 2, 3 and 14 are dependent on claim 1, and are allowable for at least the same reasons as claim 1.

Claims 2, 3 and 14 recite, *inter alia,* an echo canceler module capable of configuration as one of an acoustic echo canceler and a hybrid echo canceler and a control register adatpted to configure said echo canceler module as the acoustic echo canceler and the hybrid echo canceler.

As discussed above, Ariyama fails to teach an echo canceler capable of configuration as one of an acoustic echo canceler and a hybrid echo canceler, as claimed by claims 2, 3 and 14.

The Office Action relies on Iyengar to allegedly make up for the deficiencies in Ariyama to arrive at the claimed invention. The Applicants respectfully disagree.

Iyengar appears to teach an echo canceler system that includes first and second echo cancelers (Abstract). In a loudspeaker telephone set with full-duplex operation, an acoustic path arises between a loudspeaker and a microphone, and a line echo path arises at a hybrid transformer which connects a set's four-wire system to a two-wire local customer loop (Iyengar, col. 3, lines 30-34). A first echo canceler is used for canceling a line echo, and a second echo canceler is used for canceling acoustic echo (Iyengar, col. 3, lines 34-36).

Iyengar teaches application of a echo canceler system that includes a first and second echo cancelers for a loudspeaker telephone set. A loudspeaker telephone set uses the first and second echo cancelers simultaneously. Using a first and second echo cancelers simultaneously is NOT an echo canceler that is confirgurable between two modes of operation, much less an echo canceler module capable of configuration as one of an acoustic echo canceler and a hybrid echo canceler and a control register adatpted to configure said echo canceler module as the acoustic echo canceler and the hybrid echo canceler, as claimed by claims 2, 3 and 14.

Neither Ariyama nor Iyengar, either alone or in combination, disclose, teach or suggest an echo canceler module capable of configuration as

one of an acoustic echo canceler and a hybrid echo canceler and a control register adatpted to configure said echo canceler module as the acoustic echo canceler and the hybrid echo canceler, as claimed by claims 2, 3 and 14.

Accordingly, for at least all the above reasons, claims 2, 3 and 14 are patentable over the prior art of record. It is therefore respectfully requested that the rejection be withdrawn.

**Claims 4-9 over Ariyama in view of Sih**

In the Office Action, claims 4-9 were rejected under 35 U.S.C. §103(a) as allegedly being obvious over Ariyama in view of Sih U.S. Patent No. 5,687,229 ("Sih"). The Applicants respectfully traverse the rejection.

Claims 4-9 are dependent on claim 1, and are allowable for at least the same reasons as claim 1.

Claims 4-9 recite, *inter alia,* an echo canceler module capable of configuration as one of an acoustic echo canceler and a hybrid echo canceler and a control register adatpted to configure said echo canceler module as the acoustic echo canceler and the hybrid echo canceler.

As discussed above, Ariyama fails to teach an echo canceler capable of configuration as one of an acoustic echo canceler and a hybrid echo canceler, as claimed by claims 4-9.

The Office Action relies on Sih to allegedly make up for the deficiencies in Ariyama to arrive at the claimed invention. The Applicants respectfully disagree.

Sih appears to teach a method of controlling echo canceling in an echo cancelation system using a state machine controller (Abstract). The echo canceler includes a state machine which is configured into a predetermined state of a plurality of states depending on a presence near-end speech signal, far-end speech signal, or both near-end and far-end speech signals (Sih, Abstract). Based on a predetermined state of the state machine, the controller in the state machine controls the update of coefficients of a plurality of adaptive filters (Sih, Abstract). To preserve echo filter coefficients of a echo canceler filter, a variable

adaptation threshold is used to switch on and off adaptation of the echo canceler filter (Sih, col. 13, lines 29-32).

Sih teaches an echo canceler using a plurality of adaptive filters. A plurality of adaptive filters is NOT an echo canceler that is configurable between two modes of operation, as claimed by claims 4-9.

Neither Ariyama nor Sih, either alone or in combination, disclose, teach or suggest an echo canceler module capable of configuration as one of an acoustic echo canceler and a hybrid echo canceler and a control register adatpted to configure said echo canceler module as the acoustic echo canceler and the hybrid echo canceler, as claimed by claims 4-9.

Accordingly, for at least all the above reasons, claims 4-9 are patentable over the prior art of record. It is therefore respectfully requested that the rejection be withdrawn.

**Claims 10-13 over Ariyama in view of Velardo**

In the Office Action, claims 10-13 were rejected under 35 U.S.C. §103(a) as allegedly being obvious over Ariyama in view of Velardo et al. U.S. Patent No. 5,587,998 ("Velardo"). The Applicants respectfully traverse the rejection.

Claims 10-13 are dependent on claim 1, and are allowable for at least the same reasons as claim 1.

Claims 10-13 recite, *inter alia,* an echo canceler module capable of configuration as one of an acoustic echo canceler and a hybrid echo canceler and a control register adatpted to configure said echo canceler module as the acoustic echo canceler and the hybrid echo canceler.

As discussed above, Ariyama fails to teach an echo canceler capable of configuration as one of an acoustic echo canceler and a hybrid echo canceler, as claimed by claims 10-13.

The Office Action relies on Velardo to allegedly make up for the deficiencies in Ariyama to arrive at the claimed invention. The Applicants respectfully disagree.

Velardo appears to teach a method and apparatus for reducing, in a communication signals received by a local network from a remote network, energy content attributable to echoes of signals transmitted into a local network (Velardo, Abstract). Selective regulation of individual frequency sub-bands leads to higher operational stability and better voice quality than are achieved using conventional, fullband nonlinear processors for reducing echo (Velardo, col. 5, lines 18-22).

Velardo teaches selective regulation of individual frequency sub-bands. Selective frequency regulation is NOT an echo canceler that is configurable between two modes of operation, as claimed by claims 10-13.

Neither Ariyama nor Velardo, either alone or in combination, disclose, teach or suggest an echo canceler module capable of configuration as one of an acoustic echo canceler and a hybrid echo canceler and a control register adatpted to configure said echo canceler module as the acoustic echo canceler and the hybrid echo canceler, as claimed by claims 10-13.

Accordingly, for at least all the above reasons, claims 10-13 are patentable over the prior art of record. It is therefore respectfully requested that the rejection be withdrawn.

**Claims 15 and 22 over AAPA**

In the Office Action, claims 15 and 22 were rejected under 35 U.S.C. §103(a) as allegedly being obvious over Applicant's Admitted Prior Art ("AAPA"). The Applicants respectfully traverse the rejection.

Claims 15 and 22 recite, *inter alia,* configuring an echo canceler module as one of an acoustic echo canceler and a hybrid echo canceler.

AAPA teaches that in the event of a combined requirement for both an acoustic echo canceler (AEC) and a hybrid echo canceler (HEC) within the same unit, manufacturers will typically customize a combined HEC and AEC for use with the particular application.

AAPA teaches an echo canceler containing both an HEC and an AEC. AAPA fails to teach a configurable echo canceler, much less configuring

an echo canceler module as one of an acoustic echo canceler and a hybrid echo canceler, as claimed by claims 15 and 22.

As Applicants have indicated within AAPA, many different types of echo cancelers must be manufactured, inventoried and maintained, e.g., AECs, HECs, and AEC/HEC combinations. Unfortunately, the conventional use of many different types of echo cancelers complicates manufacturing, maintenance, and overall cost. A configurable echo canceler overcomes these deficiencies within the prior art.

Accordingly, for at least all the above reasons, claims 15 and 22 are patentable over the prior art of record. It is therefore respectfully requested that the rejection be withdrawn.

**Claim 16 over AAPA in view of Iyengar**

In the Office Action, claim 16 was rejected under 35 U.S.C. §103(a) as allegedly being obvious over AAPA in view of Iyengar. The Applicants respectfully traverse the rejection.

Claim 16 is dependent on claim 15, and is allowable for at least the same reasons as claim 15.

Claim 16 recites, *inter alia,* configuring an echo canceler module as one of an acoustic echo canceler and a hybrid echo canceler.

As discussed above, AAPA fails to teach a configurable echo canceler, much less configuring an echo canceler module as one of an acoustic echo canceler and a hybrid echo canceler, as claimed by claim 16.

The Office Action relies on Iyengar to allegedly make up for the deficiencies in AAPA to arrive at the claimed invention. The Applicants respectfully disagree.

As discussed above, Iyegar teaches using a first and second echo cancelers simultaneously. Iyegar faisl to teach an echo canceler that is confirgurable between two modes of operation, much less configuring an echo canceler module as one of an acoustic echo canceler and a hybrid echo canceler, as claimed by claim 16.

Neither AAPA nor Iyegar, either alone or in combination, disclose, teach or suggest configuring an echo canceler module as one of an acoustic echo canceler and a hybrid echo canceler, as claimed by claim 16.

Accordingly, for at least all the above reasons, claim 16 is patentable over the prior art of record. It is therefore respectfully requested that the rejection be withdrawn.

**Claims 17-19 over AAPA in view of Sih**

In the Office Action, claims 17-19 were rejected under 35 U.S.C. §103(a) as allegedly being obvious over AAPA in view of Sih. The Applicants respectfully traverse the rejection.

Claims 17-19 are dependent on claim 15, and are allowable for at least the same reasons as claim 15.

Claims 17-19 recite, *inter alia,* configuring an echo canceler module as one of an acoustic echo canceler and a hybrid echo canceler.

As discussed above, AAPA fails to teach a configurable echo canceler, much less configuring an echo canceler module as one of an acoustic echo canceler and a hybrid echo canceler, as claimed by claims 17-19.

The Office Action relies on Sih to allegedly make up for the deficiencies in AAPA to arrive at the claimed invention. The Applicants respectfully disagree.

As discussed above, Sih teaches an echo canceler using a plurality of adaptive filters. A plurality of adaptive filters is NOT configuring an echo canceler module as one of an acoustic echo canceler and a hybrid echo canceler, as claimed by claims 17-19.

Neither AAPA nor Sih, either alone or in combination, disclose, teach or suggest configuring an echo canceler module as one of an acoustic echo canceler and a hybrid echo canceler, as claimed by claims 17-19.

Accordingly, for at least all the above reasons, claims 17-19 are patentable over the prior art of record. It is therefore respectfully requested that the rejection be withdrawn.

**Claims 20 and 21 over AAPA in view of Velardo**

In the Office Action, claims 20 and 21 were rejected under 35 U.S.C. §103(a) as allegedly being obvious over AAPA in view of Velardo. The Applicants respectfully traverse the rejection.

Claims 20 and 21 are dependent on claim 15, and are allowable for at least the same reasons as claim 15.

Claims 20 and 21 recite, *inter alia,* configuring an echo canceler module as one of an acoustic echo canceler and a hybrid echo canceler.

As discussed above, AAPA fails to teach a configurable echo canceler, much less configuring an echo canceler module as one of an acoustic echo canceler and a hybrid echo canceler, as claimed by claims 17-19.

The Office Action relies on Velardo to allegedly make up for the deficiencies in AAPA to arrive at the claimed invention. The Applicants respectfully disagree.

As discussed above, Velardo teaches selective regulation of individual frequency sub-bands. Selective frequency regulation is NOT an echo canceler that is configurable between two modes of operation, much less configuring an echo canceler module as one of an acoustic echo canceler and a hybrid echo canceler, as claimed by claims 20 and 21.

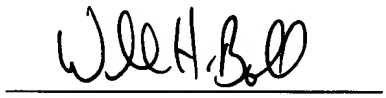
Neither AAPA nor Velardo, either alone or in combination, disclose, teach or suggest configuring an echo canceler module as one of an acoustic echo canceler and a hybrid echo canceler, as claimed by claims 20 and 21.

Accordingly, for at least all the above reasons, claims 20 and 21 are patentable over the prior art of record. It is therefore respectfully requested that the rejection be withdrawn.

**Conclusion**

All objections and rejections having been addressed, it is respectfully submitted that the subject application is in condition for allowance and a Notice to that effect is earnestly solicited.

Respectfully submitted,



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